THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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EDITORIAL NOTES.

The National Veterinary Association held its Eighth Annual Meeting on Thursday, October 2nd, at the Royal College of Veterinary Surgeons, London. In the absence of the President, Mr. Simcocks, the chair was taken by Professor Williams. The morning was chiefly devoted to business matters, and the afternoon to election of officers and the discussion of a paper by Mr. G. A. Banham, on "Soundness and Unsoundness of Horses." Professor McCall opened the discussion on the paper, and a large number of the members contributed their views of the question. We hope soon to give a full report of the paper and discussion.

The session opened at the Royal Veterinary College on October 1st. The Chair was taken at 1 o'clock by General Sir Frederick Fitz-Wygram and an address was delivered by Professor Pritchard. Very considerable latitude is allowed in these addresses—some lecturers using them as opportunities for airing their own special fads; some devote the time to a general review of science, and some simply advise and direct the students as to the method and aim of the studies they are about to embrace. This seems to us the most legitimate course and it was the one followed by Professor Pritchard, than whom no one ought to know better how to guide the budding veterinarian.

It was decided that the annual meeting next year should be held at Doncaster, and it will probably be arranged that the meeting shall take place in the same week as the annual show of the Royal Agricultural Society. The new President is Professor Axe, and the new Secretary Mr. Malcolm, of Birmingham. A special vote of thanks to the retiring Hon. Secretary, Mr. Banham, was very heartily carried, and the meeting was reminded that the formation of the Association and its progress to the high position it has now attained was due entirely to the initiation and indomitable energy of Mr. Banham. Mr. Wragg was re-elected Treasurer, and it may be well in this connection to state that many members have forgotten to forward their subscriptions. Our genial Treasurer wants all the money he can get, as the Association has now determined to partially endow original research in the veterinary profession. Experimental work in pathology is a matter of most vital importance to our scientific progress, but it is generally impeded by want of funds. Every member of the "National" who is behind in his payments may now contribute his subscription with the expectation that the funds will not be allowed to lie idle, and that they will assist the good work of scientific and professional advance.

On Wednesday evening the members of the National Veterinary Association had their Annual Dinner at the Café Royal. The attendance was not quite up to the average, and the President was conspicuous by his absence. Professor Pritchard however took the chair and fulfilled its duties to the satisfaction of all those present. If the dinner were lacking in numbers and formality, these deficiences were fully compensated by more than usual geniality and unstudied fraternity. The Metropolis, we regret to say, was not so well represented as it ought to have been, but fortunately a Quarterly Meeting of Council had taken place earlier in the day and the members of that august body, with marvellous unanimity, took advantage of the occasion,and swelled the attendance at dinner to a very appreciable extent. The Schools were well to the fore—each institution being represented by its Principal, and the Royal by its whole professional staff.

At the Council Meeting of the Royal College of Veterinary Surgeons held on Wednesday it was agreed, with one dissentient, to refer the question of a New Charter and its requirements to a Committee consisting of the whole Council. This important question is now carried one step further on the path which must inevitably end in its adoption. The profession may therefore look forward with hope to the time when members will regain their lost rights, and when Fellows will be truly what the Charter intended them to be,—men of acknowledged higher scientific attainments. Of course the matter is not settled, and it behoves every one of us to maintain an active interest in it. We have only to show clearly our desire for the change and our representatives will give effect to the will of the profession.

On another page will be found a report of the Thirteenth General Meeting of the National Veterinary Benevolent and Mutual Defence Society. That veteran Mr. Peter Taylor took the chair, and in reference to some proposed alterations of rules pointed out that they were not due to mere outside pressure. The Society had had before them the subject of alterations for two years. and a committee appointed for the purpose had very fully considered the whole subject. The proposed alterations were then discussed *seriatim*, with the result that the £5 entrance fee was reduced to One Guinea, and that the Defence Fund is to be raised from a limit of £500 to £1000. This seems to us to remove all the objections that have been taken to the arrangements of the old Society, and we feel certain that the result will be to cause a large influx of members and a much wider appreciation of the advantages accruing from membership. No prudent practitioner will now neglect to join the Society, any more than he would neglect to provide against the ordinary accidents and vicissitudes of life by subscribsng to Insurance Companies. The Defence Society must be made a large and strong Association, and we trust that every reader of this Journal who is non-member will at once communicate with the Hon. Sec.. Mr. George Morgan, of Liverpool.

Another prosecution of a veterinary surgeon by the R.S.P.C.A. has been brought under our notice, and we reprint from a local paper an account of the trial. The victim in this case was convicted, and we can now only condole and sympathise with Mr. Eggleton. His mistake seems to have been in not obtaining the assistance of some members of the profession. He trusted to the merits of his case, forgetting that the magistrates can only form an opinion upon the evidence given, and that expert witnesses are to be found not only in professional but also in official men. The only witness apparently who was likely to know a horse from a cow was the kennel-man, and his evidence is sufficient to upset all that offered by the prosecution. Really something must be done to induce the R.S.P.C.A. to be more careful in their attacks upon members of our profession, who are daily obliged to inflict pain upon animals, and who must be permitted to have some latitude in judging of the fit and proper time to operate upon animals, and in deciding when they should or should not be killed.

We have no desire to create any antagonism between veterinarians and the self-constituted protectors of animals. The officers of the R.S.C.P.A. may be very clever men, but their training and knowledge renders them much more expert in the witness-box than in the loose-box. Practitioners of the veterinary art are generally the reverse, and when a contest arises between them on the ground most favorable to the officer, and the Great Unpaid decide the issue, the man of science is worsted by the man of art—the art of collecting and giving evidence.

We are sorry for Mr. Eggleton, but his case is a warning not to neglect to prepare for a fight when the R.S.P.C.A. disapprove of our proceedings.

CASES AND ARTICLES.

A FRACTURED CERVICAL VETEBRÆ.

By W. Hunting, F.R.C.V.S.

Looking over a few pathological specimens the other day, that I keep as mementoes of cases that interested me, I came across a fractured *dentata*, the history of which may possibly interest others, as it did me. The case was as follows:

In response to a telegram I went to see a grey mare said to be paralysed. She was lying quietly in a well-littered loose-box, and showed no symptom of discomfort—in fact, would eat portions of hay held to her mouth, and moved her eyes and ears in a quite natural manner. Motion and sensation seemed lost from the middle of the neck downwards. We attempted with slings to raise her, but found that she hung on them quite powerless, and we desisted at once. I was told that she had lain in box since the day before, when she had been hunted. She was ridden by the late Earl of Craven who described how, towards the end of a run, she had carried him over a fence, but landed on her head and turned completely over. Horse and rider immediately rose; the mare was remounted and galloped over the next field, but bungled badly at the next fence. His lordship then called up his second horse, and sent the groom home with the grey mare, saying he feared she was hurt in some way. The groom narrated how he first attempted to ride the mare, but as she seemed to stagger under him he dismounted and led her. He journeyed on foot some miles, and then stopped at a public house for refreshment, but the mare commenced to reel about, and he had to lead her in a circle while he disposed of his drink. He then led her all the way home—latterly with some stumbling and staggering—but managed to get her to the loose-box, where she immediately fell, and never rose again. The distance from where the accident occurred to the loose-box at Ashdown was 18½ miles.

From symptoms and history I diagnosed an injury to the spine in the upper cervical region, but could not believe that the fracture was of the body of a bone. I expressed an opinion that some of the processes and ligaments of the vertebræ were fractured, and that paralysis was due to pressure from the resulting extravasation of blood, and exudation. The mare was not killed but died next day, and the head and neck were forwarded for examination.

On removing the skin discoloration was found in the region of the first and second vetebræ. Removal of muscles disclosed a fracture of the *dentata* which completely severed the adontoid process from the body of the bone. It was not a simple fracture, quite an inch of the under surface of the bone was reduced to fragments, and extravasated blood filled the spinal canal for two or three inches in front of and behind the median line of fracture.

Had I not seen this case and obtained its history directly from the actors in it, I could not have believed it possible for a horse to walk 18 miles

after fracturing the body of a cervical vertebra. The spinal cord, I think, was not injured by the fall which broke the bone; and death resulted from pressure of extravasated fluids. The very large calibre of the canal at this part compared with the size of the portion of spinal cord passing through it is probably the cause of the delayed paralysis.

I have heard of fracture in the dorsal region occurring some time before any signs of paralysis were evident, but have always supposed such cases were due to no displacement having occurred till some little time after the violence. In my case a considerable portion of bone was smashed—pulverised—but very little displacement of the odontoid process was found. If the cord had been directly injured by the fall I should have expected some interference with the phrenic nerve, and great disturbance of respiration, if, even, that function were continued.

PARTURIENT APOPLEXY.

By O. Trevor Williams, M.R.C.V.S.

About 7.30 on Monday evening. the 15th of September, I was asked to see a fine plethoric cow, half-bred—between Welsh and Short-horn. On my arrival in the place I found the cow lying down, head turned to the side, eyes staring, bloodshot, amaurotic, and insensitive to the touch; head, horns, and ears hot; pulse small, quick, and almost imperceptible. The respiratory efforts were deep, slow, and at times stertorous. On enquiring the history of the cow the owner said that she was 12 years of age, and had had 11 calves. While in profit she used to give from 17 to 18 lbs. of butter per week, and has now been milked steadily for two years.

Treatment.—I first placed the cow on a fine litter, and fixed her as much as possible on the sternum by packing straw against the sides. Then I took a blanket, saturated in cold spring water, and placed it over the body, then a dry blanket and straw on the top. In less than a quarter of an hour the cow was steaming in perspiration, and the blanket was re-saturated every two or three hours. The cow was turned from side to side. I continued this until she gained consciousness, In addition to this "Turkish Bath" I prescribed *the sedative treatment* which was followed by the most marvellous effect in less than ten hours. The cow was up on her feet in from 18 to 20 hours, and since then gradually gained strength, while in two or three days she properly recovered to her natural state, and is now milking as well as ever. I strongly advocate the cold water blanket in addition to the sedative treatment, which I believe in conjointly.

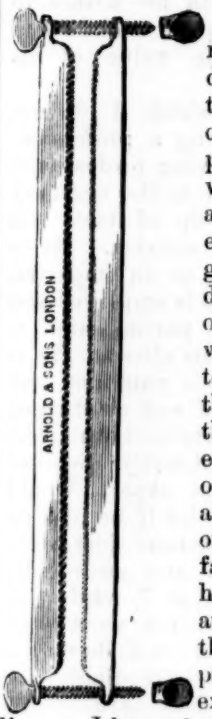
My experience is not great. but I have seen a good many suffering from this disease in this part of Wales, and without hesitation in my mind this treatment is by far better than bleeding and drastic purgatives, so I recommend Mr. W. Ridgman, M.R.C.V.S., to use the same.

SCROTAL HERNIA.

By Capt. Russell, F.R.C.V.S., Grantham,

The ordinary "covered operation" as performed on horses that have attained 4 years old and upwards, in my experience is very risky, and often attended by most untoward results. I operate upon six to twelve such animals every year, and have used all sorts of wooden and metal clams, but not with the satisfaction I had been led to expect. That bane to the skill of the surgeon—tetanus, being perhaps my greatest enemy; but in some cases, notwithstanding every care and precaution, after the removal of the clams the Bowels will protrude in the course of an hour or two.

Messrs. Arnold and Sons have recently constructed a steel clam for me which I am hopeful will obviate all bad results.



After having cast the horse, and returned the bowels within the abdomen I place above the testicle this long steel clam (which is made of selected metal) properly tempered that it will not bend or snap; well tapered on its edges, so as to be as light as consistent with strength—extra long that it may be easy to get at; and with all screws guarded, so as to prevent any possibility of wounding the thighs; including within its grasp the common integument of the scrotum, the the cord, and the appendages of the testicle. This I tighten up every 24 hours, if at all loose, without casting the animal, and in about seven days the whole drops off, leaving a firm cicatrising surface, from which hitherto I have had nothing to fear. I keep the animal standing from the time of the operation until 4 days after the parts fall off. allowing sufficient exercise daily to control the swelling. I hope the instrument may prove of service to the profession.

PROFESSIONAL WITNESSES.

The morality of advocacy is a subject which has given rise to much debate. Theoretically the lawyers or advocates in a case are there to assist justice in arriving at the truth: practically their object is to win the case for their client,and to distort the evidence, within a margin of decency, so as most certainly to secure that object. Judge and jury quite understand the position, and discount the statements and arguments of counsel accordingly.

Ordinary witnesses are in a quite different position. They give evidence as to fact—in other words, they swear to what they saw or heard. Even this elementary performance leads to much conflict

of testimony—some of it quite honest conflict. Every event witnessed by half-a-dozen people presents some different impression to each of the spectators. It may be they see it from different physical points of view, that they overlook some important but not very evident sequence in the events, or that the mental impression received varies in its proportions according to the quality or condition of mind impressed. An assault at Billingsgate commences by a collision (wilful or accidental). Then an argument arises in which the terms used present a totally different signification to a sporting veterinary student to what they do to a youthful ecclesiastic. Finally blows are exchanged—the *second* one, of course, in self-defence. Three equally honest witnesses of such a fracas might give most contradictory descriptions of the events they saw, especially if they viewed the scene from different standpoints. Even the *words* used by a witness may not convey to his hearers the truth he wishes to express, and his demeanour may, quite unknown to him, very effectually destroy the value of his evidence.

The professional witness—by which I do not mean the man who makes witnessing a profession, but the professional man who is giving professional evidence—is in a different position to the ordinary witness. His evidence is made up of facts and opinions, or it may be merely of opinion. He is not called by the Court to assist as an impartial expert in arriving at the truth. He is employed and paid (sometimes) by one of the parties, and is expected to be of assistance to his client. He is looked upon by the other side as a paid liar, and valued according to his cleverness and astuteness. The judge and jury hear the experts on both sides, and with careless impartiality liberally discount their evidence. An extra honest expert would probably do his client serious injustice if he took an abstract neutral line. Suppose abstract justice to be represented by the number 7, and an angelic expert witness stated his valuation at 7, whilst his less conscientious opponent put it at 3, we may be certain the judge and jury would conclude that 5 was the correct number, and decide accordingly.

Practically an expert witness does harm to his client's case by a too impartial statement of opinion, unless he be astute enough to imply that he is well within the mark, either by his tone or manner, or by some of those little arts which make evidence seem so very different to those who *read* it and those who *hear* it. If professsional witnesses were employed by the Court instead of by the parties one might obtain more impartial evidence, but so long as professional men are employed as experts on each side we must expect very wide contradictions—such as recently startled the public in the Maybrick poisoning case.

The veterinary professional witness has perhaps as difficult a position to fill as any expert who enters the Law Courts. It is generally something about a horse which compels his attendance, and there is a peculiar popular error that any dispute about "the noble animal" must be "fishy," and that men's minds at once become warped, and their integrity destroyed by the association. It cannot be denied that "horse cases," as reported, do often show a very great conflict of evidence, not only as to fact but as to opinion. In ordinary street-accidents as in breaches of warranty we often notice some hard-swearing. Why is this? The usual answer is that association with the horse has a peculiarly vicious and debasing effect upon the persons so placed. This is simple nonsense. The true explanation is that the error results from the public's ignorance and conceit.

If anyone will attend the Law Courts and hear a few cases concerning ships, or houses, or stocks, he will soon notice that disputes concerning these objects are accompanied by just as much diversity of opinion and hard-swearing as are disputes about horses, but few people notice the discrepancies because few people understand anything of the subject in dispute. With horses it is quite different. Everyone is interested in them, and everyone fancies he knows about them, and is quite capable of understanding any point in dispute. The fact is, that real knowledge of horses is quite as rare outside of the circle of equine experts as knowledge of ships is rare outside of nautical circles.

This ignorance affects all sorts of people, and judges, jury, and counsel, all interpret the evidence in the fulness of their knowledge. This ignorance is the cause of half the lawsuits. Men who know absolutely nothing of horses purchase them with confidence in their own judgment, and when the animal fails to fulfil their requirements at once conclude they were cheated. They entirely overlook the fact that a horse is a complex living organism, liable at any time to alteration from external surroundings or internal changes. A horse is not like a mechanical structure, which an expert can test and examine, and then practically guarantee to do its work for months or years. It very seldom has even as fair a chance as the machine. Machinery is only entrusted to skilled and expert managers. Horses are more often than not entrusted to men who know nothing of them except that they can be steered by reins, and made to progress by a whip. Small wonder, then, that the living animal often goes wrong, often fails to give satisfaction, and frequently leds to the Law Court. Just for one moment consider the delicacy and complexity of the animal body, the hundred and one causes which may lead to sickness or lameness, the suddenness with which at one time defects may appear, and the slowness with which at another time they gradually develop! Consider all these things, and bear in mind that many changes are unaccompanied by any external sign of their seat or nature, and we can readily understand how wide a margin exists for experts to honestly differ respecting conditions on which lawsuits depend.

The fineness of the points in dispute are unintelligible to the amateur. The variations and peculiarities of changes in the animal body which come under the notice of men of experience are so great and so often inexplicable that only a very bold or a very ignorant man dare, in many cases, swear positively to the cause or duration of condition in

dispute, He must qualify his opinion—he must allow a margin for possibilities. Here comes the chance for the opposing counsel who naturally endeavours to arrive at the truth—in other words, to obtain an admission of possibility nearest to the hypothesis he wishes the jury to accept.

I believe there are very few cases in which a veterinary witness is guilty of wilfully asserting what he knows is not true, and I do not acknowledge that diversity of opinion in the witness-box is only explicable on the alternative of ignorance or lying. Unless the witness's opinion favoured the case he would never be called, and frequently men are consulted and find themselves unable to go into a witness-box. Undoubtedly a professional witness trims his evidence to some extent. One side states the maximum, the other the minimum; one exaggerates a possibility, and the other minimises a probability. It is for the counsel on each side to extract—not the truth—but the exact proportion of value to be given to the qualifications and possibilities a professional witness may introduce for his client's benefit.

SENEX.

VETERINARY SOCIETIES.

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

The thirteenth General Meeting of the above Society was held in the Blackfriars Hotel, Manchester, on Wednesday 24th September, the President Mr. Peter Taylor, in the chair.

These were present—Messrs. R. Reynolds, Thos. Greaves, J. E. Scriven, P. Deighton, Wm. Whittle, A. L. Gibson, Sam Locke, W. A. Taylor, R. C. Trigger, J. Lawson, H. Thompson, J. B. Wolstenholme, Thos. J. B. Taylor, T. Hopkins, and Geo. Morgan.

The minutes of the last General Meeting and also the different Council Meetings having been read and confirmed, the President addressed the meeting on the advantages of the Society, and also the proposed alteration of the rules, which alterations were not caused by outside pressure, but were mooted at the last meeting upwards of two years ago and had since been fully considered by a committee duly appointed for that purpose. He hoped the alterations would be the means of inducing many members of the profession to join the Society, and thus save themselves from many an anxious thought and sleepless night when threatened actions were hovering round their pillow.

The Secretary then read his report, from which it appeared that since the last General Meeting, the Council had met five times, and four cases for defence had been satisfactorily dealt with. In the Benevolent branch one grant had been made, and one annuity withdrawn. A son of a deceased member had also been nominated for the free studentship so generously placed in the hands of the Council by Principal Williams.

The Treasurer then read his report, which shows that there is now invested in Mersey Dock Bonds the sum of £1,900, in Bank £931 10s. Benevolent Branch. Of this he suggests that £900 should be invested in Manchester Corportion Stock, a suggestion that the meeting afterwards approved. The Defence Fund amounted to £134 10s., there was also arrears to the amount of £36 4s., owing by 21 members. The number of the members had been considerably reduced by death and resignations, but principally from falling in arrear, and, after several applications for payment, to which they seldom pay any heed, being struck off as defaulters. From these causes we have 68 fewer members than when we met ten years ago. The reduced subscription also had made a reduced income, but at present it was quite sufficient to cover the outlay, and there were no outstanding liabilities. The Bank Book and the Bonds were both in his keeping.

Before commencing the discussion of the proposed alterations, the Secretary, with the permission of the Chairman, gave a short *resumé* of the proceedings of the Society since its formation twenty-five years ago, in order that some of the younger members might know that these proposed alterations had been tried long ago and had been abandoned.

In 1865, a paper was read at the Liverpool Veterinary Medical Association on the liabilities of veterinary surgeons. It was discussed by most of the Veterinary Associations then in existence.—they were not so numerous as at the present day—and the outcome of these discussions was that a deputation from the Liverpool, Yorkshire and Lancashire Societies met at Manchester to lay the foundation stone of the "Veterinary Mutual Defence Society," adopting as their motto "Defence not Defiance."

Liverpool was represented by Robt. Lucas, John Ellis, and Geo. Morgan; Lancashire by P. Taylor, Thos. Greaves, John Lawson, and Cuthbert Simpson; Yorkshire by E. C. Dray, C. Secker, and Wm. Williams. A draft copy of Rules and Regulations was agreed to, and the first officers elected as follows, President, Robt. Lucas; Vice-President, Thos. Greaves; Treasurer, Chas. Secker; Hon. Sec. George Morgan.

The first Annual Meeting was held in Liverpool, at which 18 members attended, some alteration was made in the rules, and the Treasurer reported that a number of the members had neglected to pay the entrance fee. By the time the second Annual Meeting was held, which was in Manchester, we had 120 members, of whom 15 attended the meeting; and the Treasurer announced that the arrears had reached the respectable sum of £144 18s. At this meeting it was re-christened The National Veterinary Benevolent and Mutual Defence Society.

The third Meeting was held at Leeds, at which meeting Mr. P. Taylor was elected President, 21 members attended, and 15 cases had been dealt with by the Council up to that date.

Fourth Meeting was held in London, the attendance was 20, and the Treasurer reported that 57 members were £125 8s. 6d. in arrears.

Fifth Meeting, held in Edinburgh, 13 members attended. 35 members were struck off in arrears. Another revision of rules ordered.

Sixth Meeting, held at Birmingham, attendance 4. Two from Manchester, 2 from Liverpool; all returned home disgusted.

Seventh Meeting, held in Manchester, attendance 5—the inutility of annual meetings displayed by the meagre attendance of members and the apathy of the professsion generally, induced those present to pass a resolution discontinuing them, discretion being given to the President to call one any time within five years. Up to this time 30 cases had been dealt with by the Council.

Eighth Meeting, held in Liverpool, 24 members present. Since last meeting the Council had met 6 times, and dealt with 7 cases. At this meeting it was resolved after the end of the present year the entrance fee be raised to Five Pounds.

Ninth Meeting, held at Liverpool, 11 present. In the interval the Council had 2 meetings and four cases. Trustees were appointed to invest the funds and several alterations of rules made.

Tenth Meeting, held in Manchester, 21 present. Rule regarding Life Governors amended; 10 meetings of Council had been held and 11 cases dealt with.

Eleventh Meeting, held in Manchester, 15 present, several alterations made, amongst others the Subscription, which up till this time had been 21/- for those having forges and 10/6 for those without. Contrary to expectation, experience had taught the Council that those members who had no forges were oftener in trouble than those who had:—4 meetings of Council and 4 cases.

Twelfth Meeting, held at Manchester, 9 members present: 5 meetings of Council reported and 4 cases. Notice given by S. Locke that at the next meeting he would move the reduction of the entrance fee. We have thus had since its commencement 12 General Meetings and 37 Meetings of Council at which upwards of 60 cases have been discussed, independent of those which have been advised upon and disposed of by individual members of the Council privately.

The proposed alteration of the rules were then discussed seriatim, and several important alterations made, for instance, the reduction of the entrance fee from Five Pounds to 21/-; the raising of the Defence Fund from £500 to £1000; the appointment of four Trustees who shall not be the officers of the Society, that is there shall be no dual appointment; the present Trustees to hold office till next meeting; and the Funds to be invested only in Securities authorized by Act of Parliament applicable to Trust Funds: the appointment of two Auditors outside the Council to audit the Treasurer's accounts; and that notice of amendments to be sent to the Secretary previous to the 1st of January in each year. Verbal alterations were made by several professed disciples of Lindley Murray, but which do not affect the working of the Society.

The Treasurer then proposed that £900 be invested in Manchester Corporation Stock, which was duly seconded and carried unanimously.

The officers were re-appointed, viz:—

President: P. Taylor.
Vice-President: R. S. Reynolds.
Treasurer: Thos. Greaves.
Hon. Sec: George Morgan.

Council:

Thos. Briggs, J. S. Carter, T. Hopkins, John Lawson, Sam Locke, W. G. Schofield, W. A. Taylor, R. C. Trigger, Thos. Walley, Wm. Whittle, Wm. Williams, Wm. Woods.

Auditors:

Ed. Faulkner, J. B. Wolstenholme.

A unanimous vote of thanks to the Chairman for his services terminated the meeting.

George Morgan, *Hon. Sec.*

EXTRACTS AND NOTES.

ANOTHER PROSECUTION BY THE R.S.P.C.A.

At Buntingford Petty Sessions, on Friday, September 19th, Benjamin Eggleton, *M.R.C.V.S.* Buntingford, was summoned at the instance of the R.S.P.C.A. for cruelty to a horse at Aspenden, on August 19th.

Mr. Thorneycroft defended.

Thomas Oakman, a market gardener and florist, living at Ponders End, deposed that he was on the road from Buntingford to Cottered on the day in question, when he saw a colt in a field abutting on the public highway, with its head resting on a gate. Its near fore leg was very much corrupted, and the animal could not bend it or put its foot on the ground. Its off shoulder was raw, and flesh appeared to cling to the bottom of the hoof. The animal was exceedingly poor, in fact so poor that there was little or no flesh upon it. The skin appeared to be falling away from the flesh. He did not know the owner of the cob.

Cross-examined: Witness did not go into the field. He did not see the animal move. He passed by the gate and said to his companion "What an object that animal is." He owned three or four horses. In his opinion the cob was eighteen months or two years old. He could not tell what was the matter with the animal. It was so thin that if a quartern loaf was tucked into its chest a person could not see it broadside (loud laughter).

John Morrell, an old man, of Enfield, who commenced to give a history of his life and of his knowledge of horses, amid some amusement, said he had seen a very great number of horses, but not one to compare with the one mentioned. It was nothing but skin and bone, and was not fit to live.

Inspector Edward Backhouse of the R.S.P.C.A., stationed at Watford, said on meeting the defendant at Buntingford, on August 22nd, he said to him "There is a complaint against you for abandoning a horse which is incapable of feeding itself," and accompanied him to the paddock where the animal was depastured. His next question was "How long has this animal been kept here?" and defendant replied "Six weeks. It eats well and could eat a bushel of corn every day if he could get it." The animal, which was a dark brown gelding, was then resting its head on a gate. It was in a weak and wretched condition, was exceedingly lame on the near fore leg, and was quite unable to travel. The lameness was due to tendons so contracted that the foot was turned under and put out of use altogether. The foot was completely rotten and had sores of long standing. Witness turned the cob's foot up and said to defendant "What is this?" to which he replied: "It is only grease." On the portion of the fetlock which touched the ground witness found a large sore about the size of a five-shilling piece, which appeared very painful when touched. He told defendant it was a cruel shame to allow the animal to live, and he replied that if the Society sent down a veterinary surgeon and condemned it, he would have it killed, and that it was a funny thing he could not keep a horse like that. Witness then advised defendant to have it destroyed, and on a second visit to Buntingford, on August 29th, he ascertained that that advice had been taken.

Cross-examined: Witness thought the animal had not been worked. It was quite unable to feed itself. He believed defendant was a veterinary surgeon.

Mr. Thornycroft thought the witness had exaggerated the facts of the case very much. The colt was sent to the defendant, in his professional capacity, to do the best he could for it. It was suffering from debility and worms; and being in an unfit state to undergo an operation, it was turned into a field to recover itself. As a matter of fact the animal was improving in condition when the officer of the Society appeared on the scene.

Henry Spencer, kennelman to Mr. Swindell, said that some time between the 19th and 29th of August defendant sent for him to remove the animal, which was feeding when he entered the field. With the exception of a bad place on the near fore fetlock, he found no sores on the cob. The flesh was good and healthy after death, and it showed signs of having been fairly well nourished.

The Magistrates considered the animal had been kept in a bad state, owing to the negligence of defendant, and a fine of £1 and costs was inflicted.

LECTURE ON HORSE-SHOEING.

A well attended meeting, organised by Mr. H. Hordern, Throwley House, was held in the Institute Minor Hall, on Saturday evening last for the purpose of hearing a lecture by Professor F. Smith, of the Army Veterinary School, Aldershot, on "Horse-shoeing," a subject to which considerable attention has of late been directed in this neighbourhood.

Professor Smith, in the course of a most able and interesting address, said he was of opinion that the farrier was a very much abused person. He was often accused of laming horses and of being the means of compelling the owner to sell at a loss; and no doubt to a very great extent he did this, but he was not altogether to blame; for as long as the men were brought up in complete ignorance of their art so long were others to blame in the matter. So long as owners consented to have the feet of their horses mutilated, so long would the practice continue. If a farrier were required by a gentleman's servant to rasp the wall of the horse's hoof, pare the frog, and open the heels, he would not refuse to do it, because he knew that if he did, it would be done by somebody else. The owner, therefore, in by far a majority of cases, was to blame, and not the farrier. In order to thoroughly understand the right principles of shoeing, the Professor observed that it was essential they should have some knowledge of the foot, and by the aid of an elaborately made model, he proceeded to explain in a most interesting manner the structural formation of the hoof, frog, &c. Horses had to be shod for special purposes—to prevent the undue wear of the hoof, and this might be accomplished by using all sorts of shoes, provided they did not err against the first principles of shoeing. The Professor having strongly condemned the practice of "opening the heels," and pointed out the evils thereof, proceeded to touch upon the subject of shoeing. They placed a rim of iron on the foot to prevent undue wear, and his opinion was that the rim could not be too simple; it should be plain on the foot surface and on its ground surface, and should be counter sunk. The only preparing required was to remove by means of a rasp the amount of wall that had grown since the last shoeing, and which in the course of nature would have been worn away by ordinary usage. They should endeavour to get it level from heel to toe. The frog should not be touched except to take the "rags" off, and even if these were not touched they would wear off. No harm would result if they were left on. The next thing was to fit the shoe. In the army it was fitted cold, on account of economical reasons, but a more perfect fit could be obtained if it were fitted hot—he did not mean to frizzle the foot, but just to leave the impression of the shoe upon it. They should let the shoe go well back at the heel, but not over, and then a corn would be almost an impossibility. No more nails should be used than was necessary. Five nails to a front and six to a hind shoe would in a majority of cases be ample. It did not matter what pattern shoe was used, so that it conformed to the principles of shoeing. In conclusion, he said that if he had told them something of value to themselves and horse-owners, and particularly the horse—which had no voice in the matter—he should feel that his time had been uncommonly well spent. (Applause.)

Lord Throwley proposed a vote of thanks to Professor Smith for his kindness in coming and for his most interesting lecture. He was sure they would benefit by what they had heard, and if the valuable advice they had listened to were carried into practice there would be fewer horses go lame than was the case at present.

Mr. Rigden seconded the proposition. He was sure they all knew—as he did, as an owner of horses—that horses were more liable to injuries and diseases of their feet than any other part of their bodies, and anything that tended to improve the shoeing would be of the greatest benefit both to the animals and their owners, and would also enable the farrier to do better for those who employed him. He was sure they would agree that they had had a most interesting lecture, and that everyone of them had learned a great deal.

The motion having been carried, Professor Smith briefly responded.—*The Faversham Mercury.*

PARCHMENT PAPER AS A "PROTECTIVE."

Dr. A. H. Boucher—writing to *The Lancet*—says, I should like to call attention to the existence of a cheap and efficient substitute for oiled silk, gutta-percha tissue, and all other forms of "protective." I refer to the so-called "parchment paper," prepared by the immersion of paper at a certain stage of manufacture in sulphuric acid. It is largely used commercially on account of its grease-proof properties. I was first led to use it owing to a temporary failure in the gutta-percha tissue in the treatment of an extensive burn of the thorax, in which numerous skin-grafts and a considerable extent of growing edges required "protective." I was gratified on finding that it answered the purpose admirably, possessing the further advantage, on the dressing being changed, of remaining free from the discolouration which always results from chemical decomposition when gutta-perch tissue is used. Being unaffected by heat or moisture, it is available for every occasion on which we wish to retain these properties—e.g., as a backing for hot fomentations, stupes, poultices, compresses, &c. It is unaffected by alcohol, ether, turpentine, oils, &c., and is the most suitable covering for a piece of lint soaked with any liniment when used as a local application for neuralgia, sciatica, &c. It remains unaltered by temperature and time, and consequently never becomes sticky like oiled silk, nor does it crumble to pieces after being laid aside for any length of time, like gutta-percha tissue. Its cheapness and indestructibility, with all these advantages, ought to bring it into universal use.

TEACHERS AND EXAMINERS.

In the subjects of the medical curriculum, particularly in those which are making rapid strides, such as physiology and pathology, teachers only, speaking generally, can keep *au courant* with the entire field covered by the latest investigations, and are consequently best fitted to judge of the completeness of a candidate's knowledge. We do not imply that a student should be expected to know details which are the property of special investigators or faddist teachers; but if the student is examined only on the contents of a not too modern text-book, as would often be the case if examiners were not teachers, his knowledge may be

wider and more correct than that of the examiner, and yet bring him no credit, and in some instances even discredit. Again, we doubt whether a good examiner can often be found who either is not at present, or has not recently been, engaged in teaching the subject in which he has been appointed to examine. It is almost a truism that the best teachers make the best examiners, and we can hardly conceive of an examining board without a large representation of teachers being included therein.

The better system is the appointment of a teacher and a strong assessor, with power equal to, or even slightly greater than that of the teacher, in rejecting or passing a candidate. It is necessary also, for the due carrying out of this system, that the assessor should be absolutely independent of the teacher and of the institution, and not merely a teacher in an adjoining school, or a former pupil of the examining teacher. He should have no expectation of being treated on the Bismarckian motto, "*Do ut des.*"

For a monopoly in examinerships there is no defence. Every examiner, unless he be the professor or teacher of the subject, should be elected annually, and only be re-eligible for election for a short period—say, three or four years; and every assessor to the professor should be appointed under similar conditions. Reappointments after three or five years should only be made in exceptional circumstances, when every member of the Electoral Committee is convinced that such an examiner is so perfect as to have "born, not made." If the complaint "that for fifteen or twenty years the same names turn up with the persistence and perpetuity of the Laureate's brook" be true in respect of any examining board, the evil can be easily remedied, and its future occurrence readily prevented. Such a monopoly at any examining board is obviously unwise and unjust.—*The Lancet.*

ANATOMY AND PHYSIOLOGY,

A Discussion on Relations which Examinations bear to the Teaching of Those Subjects

In the Section of Anatomy and Physiology at the Annual Meeting of the British Medical Association, held in Birmingham, July, 1890.

Bertram C. Windle, M.A., M.D.

The subject with which I am to deal is the relations which examination in anatomy and physiology bear to the teaching of those subjects, and in dealing with it I propose (I hope not to the overthrow of the intentions of those responsible for the title) to take it first of all the other way round, and ask if teaching should bear any relation to the subsequent examination. This I do because I have heard it urged by some teachers that the business of the professor was not to regard the fact that his pupil was to be a candidate for an examination, or that such examination had its recognised peculiarities, but to teach his subject from that stand point which appeared to him to be the right one. With this view I cannot say that I agree. It has always appeared to me that there are several points to be borne in mind in the teaching of anatomy.

1. It should be taught as a science, for with the kindred subject of physiology it forms often the only early scientific training which a student of medicine undergoes, and it is therefore most important that the opportunity should be seized of causing him to form a scientific habit of looking at things, a habit without which his future practice will assuredly degenerate into pure empiricism.

2. The subject must also be taught with a constant eye to the future requirements of the students, as the practitioners of medicine and surgery of the morrow. In other words it must be taught as an applied science.

3. It must be looked upon as a training of the hand and eye for many of the observations and operations which they will afterwards be called upon to undertake. But, finally, there is another duty which we owe to our pupils, and perhaps still more to their sometimes long-suffering parents and guardians, I mean that of getting them through their examinations. All teachers must have felt the difficulty of reconciling these various lines of education, to which I have briefly alluded, with one another.

There is this further point which must not be forgotten, namely, that students are quite sufficiently alive to the nature of the examination for which they purpose presenting themselves to do so much work, and usually no more than is necessary for them to pass. In making these remarks I am very far indeed from wishing in any way to reflect upon the character for diligence of medical students. There are students who, whether from a less liberal share of abilities or of ambition, or a more liberal share of the desire for ease, will not do more work than is necessary to ensure their passing the examinations for which they enter. It is with an eye especially to the case of such students that it is important the minimum examinations should be arranged and planned not so as to be necessarily more difficult, but so as to be real tests of a real knowledge, real, that is, as opposed to the fictitious knowledge gained from the worst sort of grinder or from "cram" books.

Assuming, then, that the teaching must be coloured, to some extent at least, by the examinations which the student has in prospect, it becomes of the utmost importance that the examination itself should be of a thoroughly satisfactory nature if the student is to be induced or coerced into learning his subject in a satisfactory manner. Now of examinations there are several kinds. I do not mean good, bad, and indifferent, though that classification might be adopted and worked out had I any wish to bring a hornet's nest about my ears.

There is the first examination conducted by those who are no longer teachers of the subject in which they examine. At first sight this may to some appear the method presenting the best prospect of fairness. The student is confronted by an examiner, who has presumably no more reason for passing or rejecting him than any other candidate. It is, however, I think, a well-recognised fact that, with some few exceptions, when a man ceases to teach a subject, he also ceases to keep himself abreast of its development, with the result that his knowledge becomes antiquated, and the ill effects react upon the information acquired by the students. It is argued, I know, that whilst physiology is still living and growing, anatomy, or at least human anatomy, is a full-grown subject, about which no further facts of importance remain to be learnt. This is a position which I think none here to-day will care to occupy, and it is one which I for one should indignantly repudiate.

In the second class come those examinations which are conducted by the teacher alone and without any assessor or extern examiner. Though better than the first-mentioned class, I cannot regard these as of a satisfactory nature. There is too much room for the per-

sonal feelings of the examiner to have play even if quite unwittingly to himself.

The third class is that of examinations conducted by the teacher with the assistance of an extern examiner or assessor. These I regard as by far the most satisfactory; the student is encouraged by the fact that his teacher is present, and the predilections and prejudices of the latter are corrected by his colleague, who is able to take a perfectly impartial view of each candidate's merits and performance.

Finally, there is the chance-medley style of examination as performed by certain boards in these islands, where fortune—proverbially blind—determines whether a candidate shall meet with an easy or a hard examiner, with one who is gentle and considerate, or with one who is contrary in every respect. This system is fraught with much hardship to students, in the rejection of those who ought to pass, and to the profession by the passing of those who ought never to be allowed to become registered medical practitioners.

Of all these various methods of examination instances will occur at once to the minds of those present, I prefer not to specify them myself. If we now ask ourselves in what manner the lines of examinations may best be shaped, we shall, I think, be led to the conclusion that the co-operation of teachers and examiners, is necessary if the test is to be of real educational value. It should be possible for the students of any school to be examined by their own teacher associated with some extern examiner appointed with rigid impartiality by the department having charge of medical education, the examinations being systematically and frequently supervised by competent inspectors.

What changes are necessary to ensure that the examinations are the test of a thorough education in the subjects with which they deal? There are several desiderata, which I shall briefly detail. In the first place, then, I would urge that no examination is a satisfactory one in which each student presenting himself is not examined by the same examiners both to his written and oral work. Unless this is the case, unfairness to the student cannot but occur, at least at times. Of course it will be urged that such a method consumes a vast amount af time. Doubtless, but on the other hand the candidate pays a substantial fee to be examined, and ought to receive fair value for his money, nor need there be the slightest difficulty in finding thoroughly competent men who would be willing to conduct examinations upon the lines indicated were those who have not the time, but desire nevertheless the fees, to be rigidly excluded. In the second place, I hold that human anatomy being so largely a practical subject, no examination in it can be considered satisfactory in which actual dissection does not take place. The absurd plan of regarding what the student calls "spotting" as a sufficient test of practical knowledge is one which should be abolished at once as utterly unworthy and unsatisfactory.

A third desideratum is the fairly frequent change of the extern or assessing examiner. Too long continuance in office of such officials, together with the chance-medley system to which I have alluded, is at the root of the mischievous system of grinding so prevalent in some schools, for the prophesy is not yet fulfilled that the grinders shall cease because they are few. How often have I heard one of the most celebrated of his day inquire: "If Mr. So-and-so asks you such a question what will you say?" "Yes, and suppose Mr. Such-another-one asks it what will you say then?"

Fourthly and finally, it should be impossible for students to pass at one examination in either anatomy or physiology without passing in the other at the same time. A competent knowledge of both should be possessed, and at the same time. In this conection I would point out that it is nearly as important that a student should not be hampered with other subjects at the time that he is presenting himself for the two subjects just mentioned.

To sum up, then, the style of examination is the sure cause of the style of learning, and too often of the method of teaching. Before, therefore, we can bring our teaching to the desired pitch of perfection we must labour to improve the examinations themselves; and as regards this work the fields are already white for the harvest.

Discussion.

Dr. Brooks laid stress upon the fact that anatomy was first of all an important scientific subject, and secondly a subject with large practical applications. It could then only be rightly studied when the student ceased to think of the impending examination, and threw himself into the subject for its own sake. Teaching had undergone many changes of late. A little while ago much weight was thrown on the study of minute and unimportant points in the bones, muscles, or vessels, to the neglect of the topographical anatomy, surface and other relations of the viscera and the brain; but of late, owing partly to the assistance of frozen sections, partly to the advances in abdominal and cerebral surgery, this fault had been to a large extent remedied. Anatomy was too large a subject to be studied in its entirety within the short time allotted to it. We should first give a broad knowledge on scientific lines, of the whole body, and then, if possible, a more minute instruction upon some part of it, the brain and viscera suggesting themselves as adapted for the purpose.

Dr. Thompson thought that it was necessary (*a*) that more care should be exercised in the selection of examiners, if possible, to be chosen only from pure anatomists; (*b*) that more prominence be given to applied anatomy; (*c*) that the medical schools, especially the metropolitan, should have anatomy better taught.

Professor Clark fully agreed with Dr. Brooks in insisting that the teaching of anatomy should be even yet more closely related to its practical application; and that the study of anatomy should be essentially topographical. As to examinations, he deprecated the teaching merely up to the level of examinations, and pointed out that this necessitated the decline of the quality of our teaching. Mr. Clark summed up his views in the following statements: 1. That anatomical teaching should have especial reference to the use to be made of the knowledge in after-life. 2. That teaching should be at a higher level than that required merely to pass an examination. 3. That examinations should be as wide and as practical as possible.

Professor Birmingham pointed out that in his opinion sufficient stress had not been laid on the careful study of anatomy as a means of training one of the most frequently-used faculty, namely, that of observation. A medical man's life was one of observations: the study of anatomy was a chain of observations, and consequently the best possible training for his after-career. To secure a broadness of examination and to prevent examiners from running in certain grooves he suggested the division of the body into six or eight regions, each of which should be touched upon in the examination.

Professor Allen considered that the practical application of anatomical and physiological knowledge should be strongly impressed in teaching. He would like to see much more importance given to practical physiology in pass examinations. There was too much insistance on ridiculous details in examinations. The main object should be to encourage the student's attention to the principles to which all the observed facts point, so that even if the latter were forgotten, there would still remain in his mind an intelligent conception of the process which

underlays the phenomena, and which might be expected to act similarly in any future and unforseen instance.

Professor B. C. WINDLE's Reply.

Professor WINDLE, in concluding the discussion, first pointed out that the medical practitioner had to approach each case as one for original investigation. It was therefore important that he should be taught so as to acquire that method of looking at matters brought under his notice which was adopted by the scientific observer. Thus anatomy should be taught scientifically to the medical student. But the practical side must not be neglected, and it was denied that such neglect did occur where specialists were engaged in the teaching of antaomy.

MR. LAWSON TAIT ON ANTISEPTIC SURGERY

In 1556 the learned Eusebius, seeing with pain that the French surgeons talked nothing but the jargon of the schools, wrote a book entitled *La Philosophie Nationale: apprenant la dialectique pour les Chirurgiens François*, by which he hoped to make easier for the surgeons the study of philosophy, or rather what we now term logic. I think that an imitator of Eusebius is just as much wanted now as he was three hundred years ago, and that if the jargon of the schools were now less in vogue, and we had in its place some more logical methods, we should never have heard of the so-called antiseptic theory and practice as applied to the art of surgery.

Everything at present has a septic origin and a septic inception, yet I venture to say that before the present generation has run out the word "antiseptic" will be all that is left to represent this strange structure, just as "antiphlogistic" was the only word left to represent the phlogistic theory in the middle of the present century. The fault which lies at the bottom of all this theorising—the construction of systems which do not on an average last for more than ten years—is a want of logic, as Eusebius pointed out; a want, in fact, of the initial basis of all logical systems—a strict definition. Just as in the sixteenth century, so in the nineteenth, a simple fact has been dubbed a theory, and, instead of the septic or antiseptic fact, Lister and his still more illogical disciples talk of the septic or antiseptic theory, whereas there is no theory about it at all, but an absolute and ludicrous logical error. Not content with this blunder, Lister, in the address which is my present object of criticism, speaks of Metschnikoff's relation of a fact as a phagocyte theory. It is not a theory at all, but a simple, still all important, fact; and the folly of the misrepresentation consists simply in the manufacture of a theory out of an isolated yet important discovery.

In Lister's Berlin address he begins his argument by reasserting that Koch has picked out with unerring precision the cholera microbe with as much definiteness as if it were a rose or a cabbage. I have followed this question with great interest and close attention, and I am quite indisposed to admit any part of this statement except that Koch and others have discovered additional media on which minute organisms can be, as they say, cultivated, but there is nothing new about this. When I was a boy we found we could cultivate the old-fashioned yeast plant in two forms—in sugar solution and on raw potato; and we could alter in this way, vert and revert at will, the whole life history of the plant; and this plant forms the best example and the most familiar one of a "specific" germ—that is to say, a micro-organism having specific peculiarities and constant properties, yielding results which are practically unvarying.

That an indefinite cultivation of these germs in Koch's media will breed them true, or enable us to alter them at will, as we can the rose or the cabbage, has yet to be proved: and until it is proved, Koch's experiments have only the interest of an extension of exact knowledge, having a definite value, as all such extensions have, but not as yet of the slightest practical importance. Even supposing he has really isolated the cholera bacillus, this again is a mere extension of exact knowledge. We all knew perfectly well that some definite poison was introduced in every case of cholera, and we know that it must be a specific entity, having specific pecularities and constant properties, yielding results which are practically unvarying.

Thirty years ago when our microscopes were so insufficient that we could only see and identify cells, we were deluged with a scientific cellular pathology as unintelligible as anything which preceded it.

In my boyish biological studies we saw the "all-devouring amœba," as our poetical Professor of Natural History loved to call him, under many different circumstances. We saw him, for instance, collar a paramecium and destroy him, eat him thoroughly. At that time we thought that the paramecium was the cause of decomposition. We know now that he lives on the products of decomposition, but in our days it was believed that the paramecium was the agent of decomposition. We saw that the amœba was his natural enemy. The struggle of the two seemed to us in its result to determine whether a particular pond in which we found them both should remain fresh or become putrid. If the amœba triumphed the pond remained sweet; if the paramecium triumphed the pond became putrid. We did not imagine that there could be varieties of still lower forms of life furnishing food for the amœba in the forms of bacilli, because our lenses did not at that time enable us to see the lower forms save as bright scintillating points. Metschnikoff had more powerful lenses, and thereby has extended our knowledge of the facts to an extent which is of great importance, but even this extension is a mightily different thing from the manufacture of a phagocyte theory. Even if the phagocytes are the means by which the tissues resist the threats of the omnipotent and everpresent germs, it is the phagocytes and their conditions which must constitute the really important elements of the question. Keep your phagocytes up to the mark, and you need never bother about germs; for it has ever been recognised that there was something in the body which resisted the power and attacks of disease. This has been a recognised part of every theory that has been presented for the explanation of the phenomena of fever and inflammation. What this was no one ever pretended to know exactly, but for it each had a name. There was no disguising the fact that something in the tissues protected the body against the agency for the introduction of disease, no matter under what theory this might have been discussed.

Metschnikoff's facts are partially new and wholly valuable. Koch's researches are such as deserve to be encouraged and carried out to their utmost extent; but it is the height of obstruction to garner a few facts into our *répertoire*, facts obtained though they be from the labour of the scientists, and to formulate from them or from any one of them a theory which is to be conclusive, but which never can be complete. The mischief of this kind of proceeding is well seen in the history of geology. A few isolated facts in the history of rock formations had been properly resolved upon the hypothesis of fire action, and therefore these facts were elevated into a theory which governed the whole scientific world concerning the history of the earth's crust. A few dissatisfied people complained that many facts within their knowledge were incompatible with the fire theory; but they were awed into silence by the Wer-

nerian answer, "So much the worse for your facts." Similarly my facts have for twelve years been treated by Sir Joseph Lister. He simply ignored them. He made no inquiries as to their truth; he tried no means of reconciling the difficulty between his theory and my facts; he simply went on with his settled theory and his constantly settled and as soon unsettled details of practice. This has made it extremely difficult to discuss the antiseptic theory as applied by Lister and his followers to surgical practice, for even in their theory they never bound themselves to any distinct expression, and as to their details of practice, they shifted so perpetually that it finally amounted to this: that their claim was for everything that was or seemed to be successful, and that meant not one single detail introduced by Lister. Their cry was and is, in fact, the old schoolboy joke, "heads I win, tails you lose."

But recently, in one of the best papers on the subject which I have read, a real logical definition alike of the theory and the practice has been given, upon which I can say what I have to say. The theory, principles, and practice of Listerism consists, according to this definition, in "any method of treatment which aims at and succeeds in excluding the causes (germs) of decomposition from wounds." Here at last and at least is something tangible. With such a simple theory the details of its application ought to have been easily ascertained and certainly established; but the fact is that hardly one of Lister's details has not been abandoned. If the entrance of germs into a wound was the immediate and real cause suppuration and of consequent poisoning, the device of the spray was the most completely logical appliance that could have occurred to the mind of man.

Having condemned surgical theories, I must not attempt to frame them; but a working hypothesis under which to arrange one's facts is permissable even with a small number of facts, but with nearly three thousand facts (abdominal sections and a still larger number of minor facts or operations), such an aid is perfectly legitimate. In such a case it is no more than an attempt to give general conclusions from the facts, and, as I have said, till it is found to be wholly inconsistent with a strong series or even one strong fact it may be regarded as a working hypothesis.

The ordinary bacilli of decomposition will not attack —at least will not produce the ordinary phenomena in living tissue, but they do so in dead tissue. Enclose some dead tissue with the necessary germs in living tissue, and you get a disturbance very fairly proportional to the dose given. If the dose is small or the tissue not very favourable for decomposition, the constitutional disturbance is slight. Thus a piece of dead beef as large as a walnut introduced into the calf of a man's leg would speedily excite a tremendous disturbance, but a piece the size of a millet seed would probably give no trouble. An ivory peg thrust into a bone rarely gives trouble, and leaden bullets lie quietly even in the brain for years without as much as indicating their presence. That is because, though such tissue is dead, it is not prone to decomposition.

Under the term tissue I include, of course, blood clot and serum. Such tissues, when effused subcutaneously, may be either maintained in a really living condition, or they may become dead: on this most important question we really have no knowledge, but we know the fact. Whether living or dead, if protected from the access of germs, they do not decompose.

I have said that part of my working hypothesis is that the quantity or amount of the decomposing substance or of the poison resulting from the decomposition must have a great influence on the results. This, with our everyday clinical experience, amounts to a truism, but look how the Listerians regard it. With them one germ is as good as a thousand. This is not so with specific germs. One torula bulb will take an indefinite time to act on a large quantity of sugar, just as one Scotch fir would take an indefinite time to cover a mountain by seedlings. I was six months clerk in Dr. Warburton Begbie's typhus ward at the top of the old Edinburgh Infirmary. I never stayed in that ward more than three-quarters of an hour without coming away with a headache, and an hour's stay produced loss of appetite and vomiting. A bigger dose would have given me an attack of fever, but I got into the way of timing myself to half an hour, and taking a long walk round Arthur's Seat every evening, so that I escaped the dire disease, whilst six of my colleagues took it and five of them died. Concerning this argument, Lister unconsciously and indirectly admits its validity when he asks the question, "Surely no one would feel justified in leaving in the peritoneal cavity an unsterilised cord of silk as thick as a finger?" I answer that, if circumstances demanded such a proceeding, I should unhesitatingly do it, provided all the dirt and gum had been carefully washed out of the silk, and that it was pure silk. The gum in silk dissolves freely in water at 150°, and if pure silk is well washed in such water it is incapable of decomposition, no matter what germs are about. Doubtless, as Lister suggests, there are germs in the interstices of the threads, which the phagocytes may attack and enjoy—I don't know and I don't care—and if it would gratify the phagocytes in any way, I would stuff the abdomen like pudding with the germs or bacilli of decomposition, provided there was nothing for them to feed upon. The great merit of silk is that it will not decompose, yet in time it disappears, whether eaten by the phagocytes or digested by the peritoneum and its juices I don' know, and I really don't care in the least.

I come now to more practical questions in Sir Joseph's address, and I take, first, the sentence which opens up his discussion on abdominal surgery. "The success in abdominal surgery achieved by Bantock and Lawson Tait, without, it is said, the use of antiseptic means, proves a stumbling block to some minds." The introduction of the phrase "it is said" is really too much. Either Sir Joseph has been living in the clouds of his spray for the last twelve years, ignorant of what has been passing round him, or he deliberately mistrusts what Bantock and I have been telling the world in our everyday practice—and a perfectly credible portion of the world has been to see and test the facts. "But in truth," he continues, "the practice of these surgeons is by no means conducted without antiseptic precautions, nor would they, I am persuaded, desire that such an impression should prevail." I for one distinctly wish it to be understood that I adopt none of Lister's so-called antiseptic precautions, because I have no fear of germs and never had. I have been trying to get Lister to believe for years past that all along he has been putting the cart before the horse, but he has never read my views. He tells us that we are antisepticians because we are very particular to clean our sponges. But the Listerian doctrine used to be that a dip in a 5 per cent. of carbolic acid would make any sponge safe. I always knew that it would not make them safe, for sponges are dead animal matter, most prone to rapid decomposition of the foulest kind imaginable. A damp sponge kept at a temperature of 100° will be a mass of stinking putridity beyond all imagination in twelve hours.

Speaking again of Bantock and myself, Lister says: "Both observe the strictest cleanliness—which is surely an antiseptic precaution—for it owes its virtue to the fact that it presents the septic organisms in the smallest possible numbers, and thus reduces their power for evil to the utmost that can be done by any measures that are not germicidal." Before speaking of our position Sir Joseph really ought to have been to see it, and then he would never have written thus. The cleanliness adopted

in my operations is strict enough, but even he would have been impressed with the fact that its details are directed towards dead tissue, and not against germs. But the above sentence is not interesting so much in the manner of Sir Joseph's reference to his critics, as in the complete falling away from his own faith. Were we not told for years that if our antiseptic measures failed it must be because one germ at least had got in? Sir Joseph now admits my second argument against his theory—that the facts of dosage are against it.

To continue, Lister says: "Both these surgeons also wash out the peritoneum with water so as to get rid of coagula without injuring the peritoneal surface by rubbing it with sponges, and this is done in order to avoid the risk of leaving in residual clots." If Sir Joseph Lister would witness the facts of the case, as they are in my practice daily, he will see that I care not a straw for injuring the peritoneum; that in the great bulk of my operations it is already so damaged that further injury is and must be a matter of utter indifference; and the only fact in the whole statement concerning me which is correct is that I wash away clots (pus, serum, and a great deal more) to avoid the risk of sepsis in the residuum. That is precisely what I have been teaching for the last twelve years. Lister's view was, "Keep out the germ and you may leave blood-clot (and other matters) to take care of themselves." My view was and is, "Get out all decomposable matter and you can let the germs in freely." Lister has now come round to my view, so where is Listerism now? As I said a few months ago at the debate at the Medical Society of London, it is as dead as Julius Cæsar, after a short life of twenty-four years.

The mischief probably is not at an end, for we hear that the last phase of this astonishing craze is that wounds are to be dressed with still a new contrivance, one as deadly and dangerous as anything that can well be imagined—a double cyanide.

Lister first admits, as I have said, that I wash away clots to avoid the risk of sepsis, and in the very next paragraph resuscitates his old dead theory in the words, "But now that all are agreed that microbes are the evil with which we have to contend." There are two factors in the trouble, and it can be shown conclusively that one, the germs, are wholly inconsiderable without pabulum on which to feed; whilst the other, the pabulum, is sure to breed trouble, because it is practically and mechanically impossible to keep the germs out; they exist already in the blood and elsewhere, and are ever present, according to the best authorities.

Finally, Sir Joseph Lister claims the draining of the peritoneum as an antiseptic measure. It is not many months since we were very vigorously told by an eminent authority on abdominal surgery that, if the Listerian precautions were properly carried out, drainage was wholly unnecessary, indeed pernicious. When Kœberlé first taught me drainage in 1873, he told me its use was to prevent the collection and retention of material capable of decomposition. In Chassaignac's writings may be found the most minute and detailed directions for the same purpose, and the most perfect reasoning on the subject. There is hardly a possible point in which Chassaignac does not meet the whole requirements, save in abdominal surgery, which was, of course, not then invented.

It is a matter of ever-increasing wonder to me how Chassaignac's logical common sense and practical proposals have been neglected, whilst antisepsis has driven the surgical world wild with a wholly misdirected enthusiasm.—*British Medical Journal.*

THE Railway Companies of the United Kingdom owned last year nearly 16,000 locomotives, about 36,000 passenger carriages, and 503,000 waggons.

THE AMERICAN MEAT INSPECTION BILL.

The American Government has definitely resolved on initiating a very aggressive policy. The United States Congress has, within the last few days, delivered to the President a mandate empowering and even calling upon him to adopt a vigorous policy of retaliation upon any country which placed any undue restrictions on the free sale of American products within its boundaries. Thus the French and German Governments have decided to exclude American pork from their markets, and the President is therefore called upon to adopt retaliatory measures in the way of excluding French and German manufactures from the United States. In the same way the United States Government has recently placed a staff of veterinary inspectors in this country to decide the vexed question as to whether the cases of so-called pleuro, which are frequently detected in American cattle landed in Britain, be really cases of true contagious pleuro, or only sporadic inflammation caused by exposure to cold. If these inspectors satisfy themselves and their Government that the so-called cases of pleuro are not cases of true contagious pleuro at all, and that the American cattle are being kept out of our markets on false pretences, then the president will be empowered and even urged to retaliate against this country by excluding British manufactures from the United States. The issues, therefore, of this American Meat Inspection Bill are of a wide and far-reaching character.

With respect to cargoes of cattle affected with pleuro-pneumonia received from the United States during the present year, we learn from the Veterinary Department that they are five in number. They were shipped from the ports of Baltimore, Boston, and New York, and were landed at Deptford and Liverpool on February 21, March 23, March 25, and (two) March 29. The cargoes consisted of 2545 beasts, all of which would have been dangerous if sent into the interior of the country, although the number in which the disease was sufficiently advanced for detection was small. The fact that these animals came from different parts of the United States shows that the statement to the effect that pleuro-pneumonia is confined to Long Island was not true at the end of March, at any rate.

The S.P.C.A. on a Duck Hunt.

A droll thing occurred in connection with a swimming entertainment last week. Some aquatic sports were being carried out at the South-East London Swimming Club. The advertisement announced that there would be a duck hunt, the duck, of course, being an expert swimmer whose peculiar faculty of diving and dodging makes good fun. To the amazement of the organisers of the entertainment a man walked up to the secretary and officers, and announced himself as an officer of the S.P.C.A., who had been sent by the Society "to see that no undue cruelty was practised towards the duck!"